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**Comments on the PALCO SYP/HCP**

I have noted numerous problems in my review of the PALCO SYP/HCP. Below I address those problems and attempt to summarize and explain some of the important points from the SYP/HCP review undertaken by Siskiyou Forestry Consultants.

Most of the information presented in the SYP/HCP has been derived from the Company's extensive GIS and its forest planning model. Both of these tools in forest planning have inherent deficiencies -- they are only as accurate as the information with which they are built. One particularly large assumption that the SYP makes is an assumed 35% increase in growth over that which is reported using standard yield tables and modeling software. This increase will be achieved using a combination of intensive management techniques including herbicide application for competing vegetation, aerial nitrogen fertilizer application and intermediate stand treatments such as precommercial and commercial thinning. While this increase in growth is theoretically possible, PALCO shows no evidence of where these treatments have been successful in producing these improved growth rates. Increasing early period harvest (for the first three decades) based on theoretical increases in future growth based on expensive intensive management techniques is a classic Allowable Cut Effect (ACE). PALCO has already admitted to cutting more than growth for the last decade and in my opinion should not be allowed to continue.

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Another less obvious ACE that the company uses in the SYP is the presumed conversion of its timberlands over time from redwood and Douglas-fir to plantations dominated by Douglas-fir. The company plans this conversion because the site index of PALCO lands is higher for Douglas-fir and therefore produces higher future growth rates and volumes over time. The planning model uses an objective function of maximizing Present Net Value (MAX PNV). This objective function allows the Company to obtain higher harvest levels of its more valuable redwood in the early planning decades while theoretically producing more future volume with its conversion to Douglas-fir. However, due to the sprouting habit of redwood, it is unlikely that the Company will be successful in its efforts to convert its timberland so heavily to Douglas-fir stocking.

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The Alternatives Considered on page 40 of Volume I (Public Review Draft) are inadequate. The five options discussed hardly incorporate the full range of alternative

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activities that the Company could undertake in the future management of its holdings. The No Take alternative is an obviously important alternative to consider. However, it is completely disingenuous in making statements like, "This alternative was rejected because of its potential negative effects, including: . . . Fragmentation of second growth and residual stands adjacent to old growth areas with potential for resulting indirect impacts to old growth habitat areas through potential increased predation on marbled murrelets. . . ." The reviewing agencies should require more substantial reasoning and explanation for PALCO's dismissal of this alternative. This requirement should be especially important in light of the fact that the Company is federal enjoined from harvest in the murrelet occupied Owl Creek stand which it substantially degraded and fragmented with sometimes illegal logging during the last decade.

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The Selective Harvest Alternative is also very seriously flawed in that it is artificially constrained to a harvest of only 2% of inventory (POI). The 2 POI constraint should have been included as a completely separate alternative. The Company's analysis of this alternative based on maximizing present net value (MAX PNV) cannot be adequately compared to the chosen alternative or any of the others that were not so constrained.

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The EIS analysis is flawed in that it cannot meaningfully compare the goal of maximizing long-term sustained yield (LTSY) *between* the alternatives. The SYP calculates LTSY for even-aged prescriptions as the product of the mean annual increment (MAI), a measure of average annual growth, and the number of acres managed. Changing the number of acres open to intensive management between the alternatives changes the basis of the LTSY calculations. A competent analysis of differences in LTSY, disturbance index, employment, and seral stages between real alternatives is absolutely missing from the EIS.

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Greg Blomstrom, RPF, of Siskiyou Forestry Consultants also notes that the EIS fails to analyze the effects of different objective functions *within* an alternative on the LTSY. A careful comparison of different objective functions *within* an alternative is essential to CDF's analysis of whether the SYP is meeting the objectives of the Forest Practice Rules (FPRs).

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As a Habitat Conservation Plan (HCP) this effort is completely inadequate. Late seral dependent species are the focus of the public debate centering on timber harvest activities on private forestland. As industrial timberland owners increasingly convert their extensive forestland holdings to short rotation, intensively managed tree plantations, mature or late seral forest structure is becoming more and more scarce on the landscape. The species dependent on these forest types are consequently declining and are the very reason that this application for an incidental take permit (ITP) was prepared. However, it is precisely this habitat type that the PALCO SYP proposes to continue to liquidate over the first three decades. Table 10 on page 31 of Volume I shows a loss of more than 3,100 acres of old growth, 35,000 acres of late seral and 11,000 acres of mid seral habitat over the next thirty years. The only species that will benefit from such an extensive conversion of mature forest to "openings" and young forest will be deer and other browsers - this is a habitat type that is not in short supply on the landscape today. This

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conversion of existing late seral forest also does not address that Company's obligations to provide for the recovery of listed species on its holdings. Recovery of listed populations should be the most important item on the agencies' agenda.

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It is also my opinion that a vigorous 50-60 year old even-aged stand of redwood and Douglas-fir does not meet the stand structure and function attributes of true late seral forest. The SYP repeatedly states that the Company will retain a minimum of 10% late seral forest structure in each of its five planning watersheds, but I have not found a description of the expected structure of these late seral stands nor have I found a description of how these stands will be distributed within each watershed assessment area (WAA). Considering the huge size of these WAAs, it is reasonable to assume that there may not be any functional late seral habitat at all. A small 20-30 acre stand of mature forest may contain only minor components of interior late seral forest habitat due to the amount of edge and the effect that that edge has on the microclimate of the particular stand. Wind, sunlight levels and predation are all increased in small, isolated patches of late seral forest rendering the stand unusable for certain late seral dependent species. I would suggest that the reviewing agencies require PAI.CO to describe this late seral distribution in detail using its linked planning model and GIS (geographic information system).


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Another area of concern is the Company's use of the ERA methodology for disturbance index (DI). The 20% disturbance constraint used by the SYP is far higher than the 15% the methodology suggests is the threshold of concern for cumulative effects. The SYP also shortens the period of time a site is considered disturbed from 20 years to 10 years. These changes are likely to have a major impact on when and at what L.TSY the planning model will hit the DI constraint.

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Page 16 of Volume I shows that the DI's for the Humboldt Bay and Yager WAAs are currently 15.5% and 16.8% respectively. These WAAs already exceed the 15% DI threshold of concern for cumulative effects according to the ERA methodology. However, the SYP proposes to harvest approximately 12,760 acres of the Humboldt Bay WAA and 5,811 acres of the Yager WAA within the first decade. I would suggest that the agencies require a review of this important cumulative effects measure to ascertain whether the SYP correctly utilizes the ERA methodology.

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